

Abstract

The present invention is directed to a]

ABSTRACT OF THE DISCLOSURE

1 A sensor for detecting changes in the distance between a first
and a second location, having at least one substantially
5 helically coiled optical fiber, [which is able to] can be
mechanically connected to at least one of the locations, and
having a light transmitter and a detecting device for optical
signals, the detecting device [being able to] can generate an
output signal, which is dependent upon the polarization state
10 of the optical signal transmitted via the optical fiber. [The
present invention is also directed to a] A method for detecting
the changes in distance between a first and a second
location[, having] includes the following[features:]
15 mechanically coupling at least one of the locations[is
mechanically coupled] to a substantially helically coiled
optical fiber; launching an optical signal having a known
polarization state[is launched] into the optical fiber;
following transmission over the connecting line,[this][is
20 detected in such a way] detecting this so that information is
obtained with respect to its polarization state;[from this
information,] and determining the change in distance [is
determined] from this information.